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ABSTRACT

IS FOREIGN AID CONCENTRATED INCREASINGLY ON NEEDY AND DESERVING RECIPIENT COUNTRIES? AN ANALYSIS OF THEIL INDICES, 1995-2015*

Frank Bickenbach, Asithandile Mbelu, and Peter Nunnenkamp

By tracking the changes in different margins of Theil indices during the period 1995-2015, we re-consider the question of whether bilateral and multilateral donors have targeted aid increasingly to particularly needy recipient countries with relatively good governance in order to improve the effectiveness of aid. According to our findings, the Paris Declaration on Aid Effectiveness in 2005 has not changed the donors' aid allocation systematically and consistently. Bilateral aid has become slightly more concentrated on poorer recipient countries, but most donors became less selective in granting aid to higher income countries. Furthermore, the Paris Declaration did not help improve the merit-based allocation of aid. Finally, there is no compelling evidence suggesting that donors have become less self-interested in using aid as a means to promote their own exports.

Keywords: foreign aid, Theil index, bilateral donors, multilateral donors, recipient need, recipient merit
JEL classification: F23

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1. Introduction

It is for two reasons that the donors of foreign aid are requested to concentrate efforts on a limited set of recipient countries. First, influential contributions to the aid effectiveness literature suggest that aid is more likely to promote economic and social development when donors focus on particularly needy and deserving recipients. According to World Bank studies, aid works better in poor countries with good policy and institutional environments (World Bank 1998; Burnside and Dollar 2000).[1] Second, a stronger concentration of aid could reduce transaction costs and the administrative burden of recipient countries by helping overcome the proliferation of marginal (or non-significant) aid relations and the duplication of donor activity. As noted by Easterly and Williamson (2011: 1935), it is widely agreed that the effectiveness of aid is undermined by "too many donors in too many countries, stretched across too many sectors or projects."[2]

It is open to debate, however, whether donors have adjusted their allocative behavior accordingly. Optimists argue that earlier research has led "many policymakers to conclude that targeting aid to countries with more enabling environments maximizes overall aid effectiveness" (Claessens et al. 2009: 186). Indeed, the aid allocation study of Claessens et al. (2009) indicates that bilateral aid responded more strongly to the recipient countries' income status and the quality of policy and governance after the end of the Cold War, especially in the late 1990s. Likewise, Dollar and Levin (2006: 2044) observe "a clear tendency toward selectivity in terms of economic governance", though mainly for multilateral aid agencies, in 2000-2003.[3]

[1] However, the findings of these studies have been questioned, e.g., by Easterly et al. (2004).
[2] See also Acharya et al. (2006). Knack and Rahman (2007: 193) present a formal model as well as empirical evidence suggesting that "competitive donor practices, where there are many small donors and no dominant donor, erode administrative capacity in recipient country governments."
[3] Covering the period 1980-1999, Berthélemy (2006) finds that poorer and more democratic recipient countries receive more aid. He concludes that donors take account of both recipient needs and merit when deciding on the allocation of aid. In contrast, Hoeffler and Outram (2011) find that most bilateral donors pay little attention to recipient merit; they cover a

More skeptical observers suspect competing donors to 'fly the flag' almost everywhere and care mainly about the visibility of their own projects rather than the effectiveness of aid (e.g., Chun et al. 2010). The descriptive statistics presented by Aldasoro et al. (2010) point to a wide and persistent gap between the rhetoric of political declarations and actual changes in donor behavior during the period 1995-2006, in terms of less proliferated and better coordinated aid efforts. The analysis of Younas (2008) suggests that economic and political self-interests of donors continued to dominate the publicly declared objectives of poverty reduction and economic development in recipient countries even after the end of the Cold War.[4] Fleck and Kilby (2010) focus on aid granted by the United States from the Cold War to the War on Terror.[5] Addressing concerns that the recent re-emergence of geopolitical motives might have undermined the development orientation of US aid, they show that the emphasis on the need for aid of core recipients has weakened indeed during the War on Terror. Nunnenkamp et al. (2013) assess whether the Paris Declaration on Aid Effectiveness in 2005 made a difference with regard to aid proliferation and donor coordination.[6] They do not find evidence to this effect. The period of observation of Nunnenkamp et al. (2013), 1998-2009, is more recent than that of the studies mentioned before, but probably still too short to capture any longer-term effects of the Paris Declaration on donor behavior. Another limitation is that this study fails to differentiate between the extensive and intensive margins of aid concentration, and to decompose the overall index of concentration for relevant subgroups of recipients (see Section 2 for details).

slightly longer period (1980-2004). The analyses of Berthélemy (2006) and Hoeffler and Outram (2011) have in common that donors differ considerably in terms of altruistic or egoistic aid allocation.

[4] Younas (2008) considers bilateral aid from 22 DAC donors during the period 1991-2003. Similar to Younas (2008), the empirical analysis of Fuchs et al. (2015) reveals that export competition between donors represents a major impediment to aid coordination. Focusing on spatial dependence in aid allocation, Barthel et al. (2014) find that the five largest donors react to aid given by export-competing donors when deciding on aid for economic infrastructure and production sectors.

[5] More precisely, their analysis covers the period 1955-2006.

[6] The text of the Paris Declaration is available at: http://www.oecd.org/dac/effectiveness/34428351.pdf .

Against this backdrop, the first aim of our contribution is to provide an update of earlier assessments by making use of aid flows up to 2015. Most of the above mentioned studies do not cover the recent past, i.e., the time after the Paris Declaration. In the Paris Declaration, donors promised to render aid more effective by "eliminating duplication of efforts and rationalizing donor activities to make them as cost-effective as possible" (OECD 2005: paragraph 3). Donors "commit to make full use of their respective comparative advantage at sector or country level" (paragraph 35), acknowledging that aid fragmentation impairs effectiveness while "a pragmatic approach to the division of labour … can reduce transaction costs" (paragraph 33). In other words, the Paris Declaration aimed at a clear change in the aid allocation of donors. Additional initiatives in the same year, including the UN Millennium Project (UNDP 2005) and the Commission for Africa (2005) strengthened the case for coordinated donor efforts and the concentration of aid on the particularly needy.[7] Furthermore, major donors such as the United States launched specific aid programs suggesting that the allocation of aid would increasingly be based on the merit of recipients. In particular the Millennium Challenge Corporation (MCC), established in 2004, explicitly linked aid eligibility with criteria on the quality of governance in recipient countries.[8]

The second aim of our contribution is to make use of the attractive features of Theil indices in order to provide an improved measurement of aid concentration. We construct decomposed Theil indices and track the changes in these indices during the period 1995-2015. The additive decomposability of the Theil index allows for deeper insights into the changes of the concentration of aid flows to the overall sample as well as relevant subgroups of aid recipient countries. For any

[7] Political leaders agreed to double aid to Africa at the G8 summit in Gleneagles in 2005.

[8] See https://www.mcc.gov/about: "MCC forms partnerships with some of the world's poorest countries, but only those committed to good governance, economic freedom, and investments in their citizens." According to Dreher et al. (2012), the MCC had positive signaling effects on other aid agencies, within and outside the United States.

(mutually exclusive and exhaustive) set of subgroups of recipient countries, the total inequality across countries can be meaningfully decomposed into the inequality *within* these subgroups and the inequality *between* these subgroups. Moreover, it is of particular interest for us to identify the extensive margin of concentration since a declining number of aid relations (i.e., aid > 0) would point to stronger donor specialization and more focussed aid allocation. After portraying overall trends of aid concentration, we distinguish recipient countries falling into different income classes. In subsequent steps, we further refine the analysis by splitting all aid recipient countries falling into a specific income class into distinct subgroups in terms of governance and trade relations with donors. This stepwise procedure offers insights as to whether aid has been increasingly targeted at needy and, at the same time, deserving recipient countries – and on the role of the export interests of donors for their aid allocation.

2. Method and data

Theil index: definition and decomposition[9]

We measure the concentration of foreign aid across recipient countries – or, equivalently, the inequality of recipient countries in terms of aid inflows – by means of the (absolute) Theil index. The Theil index is defined as:

$$\mathrm{T}^{\mathbf{I}} = \sum_{i=1}^{I} x_i \ln\left(I x_i\right), \qquad (1)$$

where I is the number of observations, in our case the number of potential recipient countries of foreign aid, $\mathbf{I}$ is the set of all potential recipient countries $i = 1, \ldots, I$; and $x_i = X_i / (\sum_{i=1}^{I} X_i)$ is the share of country i ($i \in \mathbf{I}$) in aid flows to all countries (with X_i the aid flow to country i).

[9] The description of the Theil index draws extensively on Bickenbach et al. (2015a, b). See also Bickenbach and Bode (2008).

The Theil index is equal to zero (no concentration) if each country receives the same amount of aid, or equivalently, if each country's share in total aid flows x_i is equal to $1/I$,; it takes its maximal value $T^{\mathbf{I}}_{\max} = \ln(I)$ if all aid flows are concentrated on just one country.

The Theil index figures most prominently among the so-called general entropy (GE) class of inequality measures. All GE measures satisfy a number of normative criteria, among which the additive decomposability of the measure is particularly important for our empirical analysis. Additive decomposability implies that, for any mutually exclusive (disjoint) and exhaustive set of subgroups of recipient countries, the total inequality across countries can be meaningfully decomposed into the inequality *within* these subgroups (within-group component) and the inequality *between* these subgroups (between-group component).[10] More specifically, the within-group component corresponds to a weighted sum of the levels of inequality between the countries *within* each group;[11] and the between-group component corresponds to the level of inequality *between* the different group averages. The decomposition property of the Theil index thus allows us to trace changes over time in the overall concentration of aid flows across countries to changes in the corresponding concentration within and between different subgroups of countries.

While the decomposition rule for the Theil index applies to an arbitrary number of subgroups, we will apply it only to the case of just two subgroups at a time.[12] For the case of two subgroups the decomposition of the Theil index can be formally described as follows:

[10] Other frequently used inequality measures, such as the Gini index or the coefficient of variation (CV) do not have this property.

[11] In the case of the Theil index, the sum of these weights is always equal to one so that the within-group component is actually a weighted average of the group-specific inequality measures.

[12] We will do so for different definitions of subgroups, however. And we will also do so repeatedly; i.e., the two subgroups of a first partition will themselves be further partitioned, in which case the set **I** is partitioned into four disjoint subsets.

Let **S** = **A**, **B** be two disjoint and exhaustive subsets of the set of all potential recipient countries **I** (i.e., $\mathbf{A} \cap \mathbf{B} = \varnothing$ and $\mathbf{A} \cup \mathbf{B} = \mathbf{I}$) comprising I_A and I_B countries, resprectively. Then the decomposition property of the Theil index (1) implies

$$\mathrm{T}^{\mathbf{I}} = \mathrm{TW}^{\mathbf{AB}} + \mathrm{TB}^{\mathbf{AB}}, \tag{2}$$

where $\mathrm{TW}^{\mathbf{AB}}$ is the within-group component, given by:

$$\mathrm{TW}^{\mathbf{AB}} = \sum_{\mathbf{S}=\mathbf{A},\mathbf{B}} \left(\left(\frac{\sum_{i \in \mathbf{S}} X_i}{\sum_{i \in \mathbf{I}} X_i} \right) \sum_{i \in \mathbf{S}} \frac{X_i}{\sum_{i \in \mathbf{S}} X_i} \ln \left(I_S \frac{X_i}{\sum_{i \in \mathbf{S}} X_i} \right) \right) = \omega_{\mathbf{A}} \mathrm{T}^{\mathbf{A}} + \omega_{\mathbf{B}} \mathrm{T}^{\mathbf{B}} \tag{3}$$

with $\omega_{\mathbf{S}} = \left(\sum_{i \in \mathbf{S}} X_i / \sum_{i \in \mathbf{I}} X_i \right)$ the share of subset **S** in aid flows of **I,** and $\mathbf{T}^{\mathbf{S}}$ the Theil index of concentration of subset **S** (**S** = **A**, **B**); and where $\mathrm{TB}^{\mathbf{AB}}$ is the between-group component given by:

$$\mathrm{TB}^{\mathbf{AB}} = \sum_{\mathbf{S}=\mathbf{A},\mathbf{B}} \frac{\sum_{i \in \mathbf{S}} X_i}{\sum_{i \in \mathbf{I}} X_i} \ln \left(\frac{I}{I_S} \frac{\sum_{i \in \mathbf{S}} X_i}{\sum_{i \in \mathbf{I}} X_i} \right). \tag{4}$$

As $\omega_{\mathbf{A}} + \omega_{\mathbf{B}} = 1$, the within-group component, $\mathrm{TW}^{\mathbf{AB}}$, is a weighted average of the Theil indices of the different subgroups with weights equal to the respective subgroups' shares in total aid flows ($\omega_{\mathbf{A}} \mathrm{T}^{\mathbf{A}}$ is thus group **A**'s *contribution* to the within-group component). The between-group component, $\mathrm{TB}^{\mathbf{AB}}$, is a Theil index itself, which results from assigning each country of a specific subgroup of countries the average aid inflows of the countries of that subgroup. It thus measures the inequality between the two subgroups in terms of their countries' average aid inflows.

A special case of the decomposition, that is of particular interest to our analysis, is obtained by dividing the total set of countries **I** into the subset of countries **Z**={$i \mid X_i = 0$} that attracted zero aid inflows in a given period (year) and the subset **N**={$i \mid X_i > 0$} of countries with non-zero (strictly

positive) aid inflows in that period. In this specific case the decomposition of the Theil index of concentration (equations (2)-(4)) simplifies to:[13]

$$\mathrm{T}^{\mathbf{I}} = \mathrm{TW}^{\mathbf{ZN}} + \mathrm{TB}^{\mathbf{ZN}}, \tag{5}$$

where the within-group component is now simply the concentration within subgroup **N** of countries with non-zero inflows

$$\mathrm{TW}^{\mathbf{ZN}} = \sum_{i \in \mathbf{N}} \frac{X_i}{\sum_{i \in \mathbf{N}} X_i} \ln\left(I_N \frac{X_i}{\sum_{i \in \mathbf{N}} X_i} \right) = \mathrm{T}^{\mathbf{N}} \tag{6}$$

and the between-group component is simply the logarithm of the inverse of the share of countries that received non-zero inflows

$$\mathrm{TB}^{\mathbf{ZN}} = \ln\left(\frac{I}{I_N} \right). \tag{7}$$

In this case, the within-group component of the overall Theil index (is a Theil index itself and) represents the "intensive margin" of concentration across country group **I** and the between-group component represents the "extensive margin" of concentration.[14] The latter reflects the impact of the changing number of countries that receive zero aid (i.e., countries in subset Z) on the development of overall concentration (note that $I_N = I - I_Z$).

Data

Aid data are taken from the OECD-DAC's Creditor Reporting System (http://stats.oecd.org/index.aspx?DataSetCode=CRS1). We use aid commitments which are usually

[13] In deriving equations (6) and (7) we make use of the fact that for subset **N** the weight $\omega_{\mathbf{N}}$ from equation (3) is equal to 1. As ln(x) is not defined for x = 0 we substitute xln(x) by $\lim_{x \to 0} x\ln(x) = 0$. For a similar decomposition in the context of trade diversification see Cadot et al. (2013).

[14] A declining number of countries with zero aid inflows is thus referred to as a lower *extensive margin of concentration*.

employed in aid allocation studies (Neumayer 2003).[15] Our analysis covers the period 1995-2015 since the Creditor Reporting System suffers from serious underreporting of aid by donors prior to 1995. We divide the overall period of observation into two 10-year sub-periods – one preceding the Paris Declaration of 2005 (1995-2004) and one following the Paris Declaration (2006-2015).[16] As argued before, the Paris Declaration may have marked a turning point in the aid allocation behavior if donors adhered to commitments made in 2005.

For a start, we assess the concentration of total aid granted by all (bilateral and multilateral) donors reporting to the Creditor Reporting System. In the next step, we differentiate between all bilateral DAC donors, i.e. the member countries of the OECD's Development Assistance Committee, and all multilateral donors. This allows us to re-assess the finding of Dollar and Levin (2006) that multilateral donors are more selective than bilateral donors. Finally, we calculate Theil indices for nine individual DAC donors. Our DAC sample includes the five largest donor countries (France, Germany, Japan, the United Kingdom, and the United States) as well as four donor countries that are widely perceived to be superior donors, in the sense of granting aid mainly for altruistic motives (Denmark, the Netherlands, Norway, and Sweden). We focus on 141 recipient countries (see Appendix Table A1).

The need for aid is approximated, as usual in the aid allocation literature, by the recipient countries' GDP per capita as reported in the World Bank's World Development Indicators database (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519). The World Bank classifies each recipient country for each year as either Low (L), Low Middle (LM), Upper Middle (UM), or High (H)

[15] According to White and McGillivray (1995: 166), commitments are the more relevant variable in aid allocation studies as donors can exert full control over commitments, while disbursements also depend on the timing of recipient requests for committed aid.

[16] We omit the year 2005 when the Paris Declaration was agreed. By omitting 2005, we also avoid that our concentration measures are influenced by exceptionally high debt relief granted to a few recipient countries, among which Iraq figured most prominently. While it is heavily debated whether debt relief constitutes 'true' aid, overall aid commitments reported by the OECD-DAC continue to include debt relief.

income. In order to keep a sufficiently large number of observations in each of our subgroups below, we classify the recipient countries into two broader groups, lower and higher income, in a simple manner. First, we award four points for every year (over our 21 year sample period) a recipient country is classified by the World Bank as H, three points for every year it is classified as UM, two points for each LM classification, and one point for each L classification. Finally, we take a summation of these points and rank the countries accordingly. The 70 countries with the lowest points are grouped as lower income recipients whilst the remaining 71 countries with the highest points are grouped as higher income recipients.

Again, we follow various aid allocation studies by considering institutional conditions and the quality of governance in the recipient countries, as given by the World Bank's Worldwide Governance Indicators (http://info.worldbank.org/governance/wgi/#home), to approximate the recipients' merit for aid. Specifically, we use the average of all six indicators available from this source: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. We classify each recipient country into either poor or good governance, by taking an average (over the 21 year period) of the country's aggregate indicator (ranging from -2.5 to 2.5) and ranking the countries accordingly. The 71 countries with the lowest aggregate score are grouped as recipients with relatively poor governance whilst the 70 countries with the highest score are grouped as recipients with relatively good governance.

Data on the (bilateral) donors' exports are taken from the IMF's Direction of Trade Statistics.[17] For each of the nine individual DAC donors, we classify each recipient country as being of relatively low or relatively high export (trade) importance to the donor. The classification is based on the average

[17] The export data were downloaded from Thomson Reuters Datastream Economics database available at: http://financial.thomsonreuters.com/en/products/data-analytics/economic-data.html.

amount of bilateral exports from donors to recipients over the 21 year period. For each donor, 71 recipient countries are classified as less important export markets and 70 recipient countries as more important export markets. For the three aggregate donor groups (all donors, all bilateral DAC donors, all multilateral donors) the classification is based on the aggregate exports from the nine DAC donors.[18]

3. Results

Overall concentration of aid

Considering all (bilateral and multilateral) donors, the overall Theil index declined from an average of 0.877 during the first sub-period 1995-2004 to an average of 0.805 during the second sub-period 2006-2015 (Figure 1 and Table 1). In other words, overall aid did not become more concentrated after the Paris Declaration in 2005. The lower concentration in the recent past raises first doubts on whether donors increasingly focused on needy and deserving recipient countries.

The lower concentration of overall aid in the recent past can be attributed exclusively to the decreasing intensive margin of the Theil index. This does not imply, however, that the change in the extensive margin of the Theil index points to considerably greater selectivity when accounting for aid from all donors. The extensive margin increased only slightly from an average of 0.036 in the first sub-period to an average of 0.055 in the second sub-period. Correspondingly, the number of sample countries that did not receive any aid from bilateral DAC or multilateral sources increased just slightly

[18] The nine DAC donors in our sample accounted for 84.4% of total DAC aid and 64.6% of the exports of all (29) DAC countries to developing countries in 1995-2015. As concerns multilateral donors, trade-related aid motives depend on the influence of the major shareholders on the allocation behavior of international financial institutions. Typically, large DAC donors such as the United States are most influential in this respect.

from an average of five in 1995-2004 to an average of 7.5 in 2006-2015 (i.e., from 3.5% to 5.3% of the overall sample of 141 potential recipient countries).

The average level of aid concentration was almost the same for the two subgroups of bilateral DAC donors and the multilateral donors prior to the Paris Declaration. More interestingly, the overall Theil indices for both donor groups declined subsequently. The decline was more pronounced for multilateral donors than for bilateral DAC donors. Most strikingly perhaps, the extensive margin of multilateral aid concentration decreased after the Paris Declaration. Multilateral donors had been more selective than bilateral DAC donors in 1995-2004 when an average of 11.5 sample countries did not receive any multilateral aid – but hardly so in 2006-2015, when an average of 8.5 countries did not receive any multilateral aid.[19]

Clearly, aid from individual DAC donors is more concentrated than aid from donor groups. Denmark and Japan exhibited the highest overall Theil indices prior to the Paris Declaration, though for different reasons: Denmark was most selective in granting aid, as revealed in an outstandingly high extensive margin of aid concentration (1.232 in 1995-2004, corresponding to an average of about 100 of the 141 potential recipients countries receiving no aid from Denmark in that period). In contrast, the concentration of Japanese aid was largely due to an outstandingly high intensive margin of the Theil index (1.727), while selectivity played a minor role. German aid was least concentrated prior to the Paris Declaration; the extensive margin reveals that selectivity was weaker only for France (0.088) than for Germany (0.208) in 1995-2004.

After the Paris Declaration, the overall Theil index declined for five of the nine DAC donors in our sample (Japan, the UK, the USA, Denmark and Sweden). The decline was most pronounced for the

[19] The extensive margin of bilateral DAC aid resembled the extensive margin of aid from both bilateral and multilateral sources.

United States. As a result, US aid was less concentrated than aid from any other DAC donor in 2006-2015. Recalling repeated donor pledges to grant aid more selectively, it is striking that selectivity actually weakened for all five donors reporting a lower overall Theil index in 2006-2015. What is more, it was mainly or even exclusively the lower extensive margin of the Theil index that led to the decline in overall concentration of aid from these five donors. While Denmark continued to be the most selective donor in 2006-2015, the extensive margin decreased most pronouncedly. Japan proved to be the least selective donor after the Paris Declaration, with on average less than ten (out of the 141) sample countries receiving no Japanese aid in 2006-2015.

Changes in both the extensive and intensive margins of the Theil index were marginal in the case of France. The modest increase in the overall concentration of German aid was only because the increase in the intensive margin over-compensated the decrease in the extensive margin of the Theil index.[20] Norway increased mainly the intensive margin of aid concentration, but hardly the extensive margin. The Netherlands stands out as the only DAC donor whose aid became more concentrated mainly because of greater selectivity. The number of recipients of Dutch aid was reduced from an average of about 102 in 1995-2004 to an average of less than 75 in 2006-2015 (corresponding to an increase of the extensive margin from 0.33 to 0.65). Apart from the Netherlands, Table 1 does not provide compelling evidence suggesting that donors granted aid more selectively after the Paris Declaration in 2005.

[20] The average number of countries receiving German aid in 2006-2015 (126.3 countries) was almost as high as the number of countries receiving Japanese and US aid (131.4 and 126.6 countries, respectively).

Increasing poverty focus of aid?

In order to assess the poverty focus of aid, we consider two (almost) equally sized subgroups of recipient countries with relatively low and relatively high per-capita income.[21] We focus on two distinct criteria to evaluate the poverty focus of donor groups and individual DAC donors: (i) the between component of the overall Theil index (between income groups component) which, in combination with the aid shares of the income groups, reveals whether and to what extent aid has become more concentrated on the poorer group; and (ii) the extensive margins of aid inflows within each income group (or the corresponding number of countries receiving positive/zero aid) which reveals whether donors granted aid more selectively.

While the between component of aid concentration accounted for a minor portion of the overall Theil index for all donors as well as for the group of DAC donors, Table 2 suggests that the poverty focus of donors became stronger after the Paris Declaration in 2005.[22] For all (bilateral and multilateral) donors, the between component increased from (an average of) 0.054 in 1995-2004 to 0.097 in 2006-2015 and the share of aid allocated to the relatively poorer recipients (comprising 70 out of 141 countries) increased from 65.5% to 71.1%. Interestingly, the increase in the poverty focus is attributable exclusively to the group of DAC donors. Compared to the group of DAC donors, the poverty focus of multilateral donors had been much stronger in the first sub-period 1995-2004. However, the between component declined in the second sub-period – casting doubt on the responsiveness of multilateral donors to recent donor commitments.

[21] For details on how we classify recipient countries see the data section above. For a list of countries belonging to the two subgroups see Appendix Table A1.

[22] The overall Theil indices shown at the top of Table 2 are the same as in Table 1 since the analysis in this section is based on the same overall sample of 141 recipient countries.

The stronger poverty focus of the group of bilateral donors in the recent past hides diverging trends for individual DAC donors. On the one hand, the between component declined for some donors. In particular, the poverty focus of French aid weakened considerably. On the other hand, major donors such as Japan and the United States strengthened the poverty orientation of their aid allocation considerably.[23] Starting from exceptionally high shares of aid granted to the lower income group of recipients, Denmark and the United Kingdom further increased the poverty orientation after the Paris Declaration. Among the smaller donor countries, the Netherlands stands out with a relatively strong increase in the between component of aid concentration (from 0.124 to 0.267); the share of the lower income recipients in Dutch aid increased by about ten percentage points.

Turning to the extensive margin of aid concentration within the two income groups of recipient countries, it again appears that multilateral donors outperformed bilateral donors prior to the Paris Declaration, notably by granting aid more selectively within the group of higher income recipients. However, the difference in selectivity between the two donor groups largely disappeared thereafter. As already observed with regard to the between component, the Paris Declaration hardly affected the allocation behavior of multilateral donors. Moreover, changes toward greater selectivity in granting aid to higher income recipients are limited to only three DAC donors (France, the Netherlands, and to a lesser extent Norway).[24] Strikingly, the large donors for whom the between component pointed to a stronger poverty orientation (Japan, the United Kingdom, and the United States) became *less* selective

[23] In 1995-2004 the United States actually allocated a smaller share of aid to the relatively lower income recipients than to the higher income recipients (42% versus 58%). In this case, the between component thus signals a concentration of aid on higher income recipients.

[24] It is interesting to note that the Netherlands became more selective in granting aid to lower income recipients, too.

in granting aid to higher income recipients.[25] Overall, it thus appears that major DAC donors reacted inconsistently to the Paris Declaration.[26]

Stronger selectivity related to governance?

In the first step of assessing whether foreign aid is increasingly concentrated on meritorious recipients, we classify all sample countries into two about equally sized subgroups with relatively good governance (70 countries) or relatively bad governance (71 countries).[27] As in the case of the income classification of recipient countries, the between component of the Theil index typically plays a minor role for the level of overall aid concentration in Table 3.[28] This applies to the donor groups as well as the selected individual DAC donors. As concerns the donor groups, we observe a modest increase in the between component for bilateral DAC donors and an essentially unchanged between component for multilateral donors. Taking into account that recipient countries with relatively bad governance received about 60% of aid prior to the Paris Declaration, the change in the between component implies that the concentration of aid on badly governed recipient countries further increased. Indeed, the share of this group of recipients in bilateral DAC aid exceeded 65% in 2006-2015. Neither do we find evidence suggesting that multilateral donors changed their aid allocation in favor of better governed recipient countries.

Among the selected DAC donors, only the United Kingdom and Denmark granted higher aid shares to relatively well governed recipients than to relatively badly governed recipients during the

[25] With respect to the group of lower income recipients the Netherlands is even the only country that became more selective in granting aid.
[26] This also applies to France. Greater selectivity of French aid to higher income recipients is in striking contrast to the above noted decline in the between component of French aid.
[27] For details on how we classify recipient countries see the data section above; for a list of countries belonging to the two subgroups see Appendix Table A1.
[28] The overall Theil indices shown at the top of Table 3 are the same as in Tables 1 and 2 since the analysis in this section is based on the same overall sample of 141 recipient countries.

first sub-period 1995-2004. Strikingly, exactly these two donors reported the most pronounced shifts in aid shares after the Paris Declaration – in favor of relatively badly governed recipients! Most other DAC donors also refrained from re-allocating aid to achieve a more merit-based allocation. Quite the contrary, the evidence for Germany, the United States, Sweden and, most notably, the Netherlands points to an increasingly weak merit-based allocation. It was only for France and Norway that aid became somewhat less concentrated on relatively badly governed recipients during the second sub-period 2006-2015. However, the shares of better governed recipients in French and Norwegian aid still remained far below the corresponding shares of relatively badly governed recipients.

Turning to selectivity, the above finding that few sample countries did not receive any aid from bilateral or multilateral sources applies to recipients with relatively good governance as well as recipients with relatively bad governance.[29] More surprisingly, the extensive margin of concentration declined further after the Paris Declaration for the subgroup of relatively badly governed recipients.[30] In contrast, the extensive margin of bilateral aid concentration increased (from 0.022 to 0.086) for the subgroup of relatively well governed recipients.[31] One could have expected the opposite pattern if donors had strengthened the merit-based allocation of aid.

The unexpected decrease in the extensive margin of the Theil index for the subgroup of relatively badly governed recipients can be observed in Table 3 for aid from almost all individual DAC donors. Selectivity weakened most considerably, though from different starting levels in 1995-2004, for Japan, the United States, Denmark and Sweden. The Netherlands provided the only exception. It should be noted, however, that the increasingly selective allocation of Dutch aid was not restricted to

[29] For instance, an average of 3.5 out of 71 potential recipients with bad governance received no bilateral aid in 1995-2004; at the same time, an average of 1.5 out of 70 potential recipients with good governance received no bilateral aid.
[30] The extensive margin of bilateral (multilateral) aid concentration for this subgroup of recipients declined from 0.051 (0.079) in 1995-2004 to 0.029 (0.033) in 2006-2015.
[31] The extensive margin of multilateral aid concentration for this subgroup of recipients hardly changed.

recipients with relatively bad governance. Actually, the increase in the extensive margin of Dutch aid concentration was at least as pronounced for recipients with better governance (from 0.426 in 1995-2004 to 0.833 in 2006-2015, compared to an increase from 0.251 to 0.501 for the relatively badly governed recipients).

In the second step of assessing the merit-based aid allocation, we replicate the previous analysis after separating the two income groups of recipient countries as defined above. In other words, we assess whether merit plays a more important role in the allocation of aid to either lower income countries or higher income countries. Again, the dividing line between relatively well and relatively badly governed countries is drawn such that all subgroups are of (almost) equal size.[32]

As can be seen in Table 4, the overall Theil indices point to more concentrated aid for the subgroup of higher income recipient countries than for the subgroup of lower income recipient countries. This holds for all donor groups and all individual DAC donors, both before and after the Paris Declaration. Furthermore, the between component of the Theil index is typically higher for the subgroup of higher income recipient countries than for the subgroup of lower income recipient countries.[33] Importantly, this does not imply that donors favored better governed recipients over worse governed recipients mainly within the higher income group. To the contrary, worse governed recipients in the higher income group received much higher aid shares than better governed recipients in this group (see also below).[34].

[32] For a list of countries belonging to the four different subgroups thus obtained, see Appendix Table A2.
[33] Again, this holds for the first as well as second sub-period with few exceptions (Japan, the United Kingdom and Denmark in the first sub-period).
[34] In the lower income group, by contrast, it is the group of better governed recipients that receive larger (but declining) aid shares from donor groups as well as from most individual DAC donors.

With the exception of aid from multilateral donors to the higher income group of recipients, the overall Theil indices of donor groups declined in the second sub-period. However, there is a striking difference between the two income groups of recipients with respect to the change over time in the between component of the Theil index: The between component declined for aid from all donor groups to lower income recipients, whereas the between component increased for aid from donor groups to higher income recipients. The former observation means that the earlier focus on lower income recipients with relatively good governance weakened considerably, particularly for aid from the group of bilateral DAC donors. The latter observation means that the earlier focus on higher income recipients with relatively poor governance became even slightly stronger.

The above finding that the Paris Declaration did not help improve the merit-based allocation of aid is also corroborated when assessing the selectivity of donor groups within refined subgroups of recipients based on income and governance. In particular, Table 4 shows that donor groups had not become more selective in granting aid to lower income recipients with relatively poor governance in the second sub-period – and at best only marginally so in granting aid to the group of higher income recipients with relatively poor governance.

Likewise, the evidence on individual DAC donors in Table 4 underscores previous results. The increasingly weak merit-based allocation of bilateral aid from DAC donors holds particularly for the lower income group of recipients. For all nine DAC donors, the between component of the Theil indices and the aid shares of recipients with relatively good governance within the lower income group declined in the second sub-period.[35] Moreover, most of the DAC donors did not become more

[35] At the same time, within the higher income group recipients with relatively good governance received increased aid shares in the second sub-period only from France, the United States and Norway (and marginally for Germany).

selective in granting aid to lower income recipients with relatively poor governance.[36] The picture is more ambiguous with regard to the extensive margin of the concentration of aid from individual DAC donors to higher income recipients, notably the better governed countries among them. With respect to the recipients with relatively poor governance within the higher income group only France and the Netherlands (and marginally Germany) became slightly more selective after the Paris declaration.

Trade-related self-interest still matters

In order to assess whether foreign aid became less concentrated on relatively important trading partners, we follow the same procedure as in the previous sections and classify all sample countries into two about equally sized subgroups. More precisely, we classify recipient countries as relatively important (unimportant) export markets if they rank above (below) the median in terms of their average share in the donor's total exports throughout the period of observation.[37] In line with the relevant literature, we assume that the concentration of aid on relatively important export markets should have become weaker if donors were less self-interested in promoting their own exports through aid after the Paris Declaration.

Not surprisingly, the calculations of the between components of the Theil indices for the donor groups in Table 5 indicate that trade-related self-interest played a larger role for bilateral DAC aid than for multilateral aid. In 1995-2004, more important trading partners received 73.6% of bilateral DAC aid, compared to 59.5% of multilateral aid. At the same time, the group of DAC donors allocated just 26.4% of overall aid to less important trading partners, whereas multilateral donors allocated 40.5% of their aid to this group of recipients. More strikingly perhaps, these differences between the two donor

[36] The Netherlands and, to a minor extent, Norway provide the only exceptions. The extensive margin of the concentration of aid from DAC donors (again with the exception of the Netherlands) did not increase either for the subgroup of lower income recipients with relatively good governance.

[37] For details see the data section above. For a list of countries belonging to the two subgroups see Appendix Table A1.

groups narrowed somewhat after the Paris Declaration. The decline in the between component of the Theil index for bilateral aid suggests a slightly weaker motivation of DAC donors of using bilateral aid as a means of export promotion. Conversely, the (modest) increase in the between component for multilateral aid suggests that the trade-related interests of major shareholders induced a shift toward more important export markets among the recipients of multilateral aid.

Table 5 underscores the earlier finding that multilateral donors generally tend to be more selective than the group of all DAC donors. Similar to what we just observed for the between component of the Theil indices, however, the differences in the extensive margin between the two donor groups narrowed after the Paris Declaration. This was mainly because multilateral donors were less selective in the second sub-period than in the first sub-period. Interestingly, this applies to recipient countries irrespectively of whether they are classified as more or less important trading partners.

Among the individual DAC donors, trade-related self-interest appears to be most pronounced for Japan, France and (to a somewhat lesser extent) Germany when comparing the level and change of the between components of the Theil indices, in combination with the relevant aid shares of recipient groups. From a particularly high level of aid concentration in favor of more important trading partners, Japan reduced this bias slightly in the second sub-period, while the focus on more important trading partners further increased for French and German aid. In contrast, the considerably reduced between component of the Theil index for the United States indicates that the largest DAC donor favored important trading partners less strongly after the Paris Declaration. Norway represents the only DAC

donor for which the between component of the Theil index was approaching zero and the aid share of less important trading partners was close to 50%.[38]

In Table 6, we consider the importance of export markets within the subgroups of recipient countries with relatively low and, respectively, relatively high per-capita income.[39] This refinement reveals that the earlier finding of a decline in the between component of the Theil index for bilateral aid is restricted to the higher income group of recipients. In contrast, bilateral as well as multilateral aid has increasingly been concentrated on more important export markets among lower income recipients. Likewise, it speaks against a less self-interested aid allocation that there are few indications of greater selectivity of donor groups, in particular with respect to more important trading partners. While all three donor groups became slightly more selective among the *less* important trading partners of the low income group, the only example of greater selectivity among the more important trading partners is that of the multilateral donors among the higher income recipients.

Among major DAC donors, French aid was persistently and extremely highly concentrated on more important export markets in both income groups of recipients.[40] For Germany, the between component of the Theil index was slightly lower in 1995-2004 than that of France but further increased for both income groups, revealing a stronger concentration on more important exports markets after the Paris Declaration. The above noted decline in the between component for the United States is limited to the higher income group of recipients. As concerns the smaller DAC donors, the between

[38] Comparing the change in the extensive margins of aid concentration between individual DAC donors hardly offers additional insights. Most DAC donors became less selective in granting aid to both subgroups of recipients in Table 5. France and the Netherlands provide notable exceptions insofar as selectivity increased for both subgroups of recipients.
[39] For a list of countries belonging to the resulting four subgroups (for the case of the donor groups) see Appendix Table A2.
[40] In both income groups the share of aid allocated to the more important trading partners exceeded 90%. The concentration of Japanese aid on more important export markets among lower income recipients was even stronger. However, the concentration of Japanese aid on more important export markets among higher income recipients weakened somewhat in the second sub-period, decreasing from 90 to 85.7%.

component mostly increased in the second sub-period.[41] The corresponding shifts of aid toward more important export markets also speak against less self-interested DAC donors after the Paris Declaration.

Finally, the extensive margins of the concentration of aid from the nine DAC donors in our sample provide another piece of evidence against a weaker export motivation of bilateral aid after the Paris Declaration. The number of aid recipients increased for 26 subgroups of recipients, while the number of aid recipients decreased in just ten subgroups.[42] What is more, reductions in the extensive margin of the concentration of aid from individual DAC donors outnumber increases in the extensive margin independently of whether one considers more or less important export markets in the lower income group or in the higher income group of recipients. Apart from the Netherlands which became substantially more selective in all four country groups, France is the only individual donor that became (slightly) more selective in at least three country groups (the exception being the more important export markets in the lower income group).[43]

4. Summary

By making use of aid flows up to 2015, we re-consider the question of whether bilateral and multilateral donors have targeted aid increasingly to particularly needy recipient countries with relatively good governance in order to improve the effectiveness of aid. Specifically, we assess whether aid has become more concentrated on poor and meritorious recipients after the Paris Declaration on

[41] Danish aid to the higher income group and Swedish aid to the lower income group provide exceptions.
[42] Table 6 lists four subgroups of recipients for each of the nine DAC donors: lower income recipients with either more or less importance for exports and higher income recipients with either more or less importance for exports.
[43] The only other cases of greater selectivity are Norway for both subgroups of the higher income countries and Denmark for the more important trading partners in the higher income group.

Aid Effectiveness in 2005, which aimed at a clear change in the allocation behavior of donors. We also evaluate whether the donors' self-interest of using aid as a means to promote their own exports has weakened since 2005.

We exploit the attractive features of Theil indices in order to provide an improved measurement of aid concentration. By comparing changes in decomposed Theil indices between the pre- and post-1995 periods, we provide deeper insights into the changes of the concentration of aid flows to the overall sample as well as relevant subgroups of recipient countries. Our focus is twofold: (i) the between-group component of the Theil index indicates whether aid flows have been redirected in favor of needier and better governed recipient countries and less important export markets among them; and (ii) the extensive margin of the Theil index reveals whether donors have become more selective within the overall sample and sub-samples of recipients.

Major findings can be summarized as follows. First of all, overall aid did not become more concentrated after the Paris Declaration. The decline in the overall Theil indices for the two groups of bilateral and multilateral donors is mainly due to decreasing intensive margins. All the same, the extensive margins of the Theil indices do not point to greater selectivity of donors. Actually, selectivity weakened for the group of multilateral donors and for most of the individual DAC donors in our sample. The Netherlands stand out as the only DAC donor whose aid became more concentrated mainly because of greater selectivity.

Second, overall aid has become slightly more concentrated on relatively poor recipient countries since 2005. However, the increasing poverty focus is attributable exclusively to bilateral DAC donors. The (traditionally stronger) poverty orientation of multilateral donors weakened. Moreover, multilateral donors turned rather less selective after the Paris Declaration. The more favorable picture

for the group of bilateral donors hides considerable differences between individual DAC donors. While the between component of the Theil index indicates shifts toward needier recipients for various DAC donors, most of them became *less* selective in granting aid to higher income countries. Again, the Netherlands stand out with a strong increase in the between component of aid concentration as well as greater selectivity within income groups of recipients.

Third, the Paris Declaration did not help improve the merit-based allocation of aid. The between components of Theil indices rather point to an increasing concentration of bilateral aid on relatively poorly governed recipient countries. Almost all DAC donors refrained from re-allocating aid to achieve a more merit-based allocation. Moreover, the extensive margin of the concentration of (bilateral and multilateral) aid declined after the Paris Declaration for the group of relatively poorly governed recipients. All these findings are corroborated when re-assessing the role of governance for the allocation of aid within distinct income groups of recipient countries. In particular, the focus of bilateral aid on lower income recipients with relatively good governance weakened considerably.

Finally, we do not find compelling evidence suggesting that the importance of donor exports as a determinant of aid allocation has declined since 2005. This is even though the decline in the between component of the Theil index for the group of DAC donors suggests a slightly weaker motivation of using bilateral aid as a means of export promotion. In contrast, the trade interests of major shareholders seem to have induced a shift of multilateral aid toward more important exports markets. Moreover, changes in the between component of the Theil index differed considerably between DAC donors. The surprising observation that especially the United States favored important trading partners less strongly after 2005 applies only to the higher income group of recipients. It also speaks

against a less self-interested aid allocation that there are few indications of greater selectivity, particularly among the more important trading partners.

All in all, the Paris Declaration does not appear to have changed donor behavior systematically and consistently. The gap between donor rhetoric and actual aid allocation persists, even though some DAC donors shifted aid to needier recipient countries. Commitments to reward better governed recipients and not to misuse aid as an export-promotion tool appear to be particularly hard to enforce. Moreover, selectivity remains an issue in order to avoid duplication and proliferation of aid efforts.

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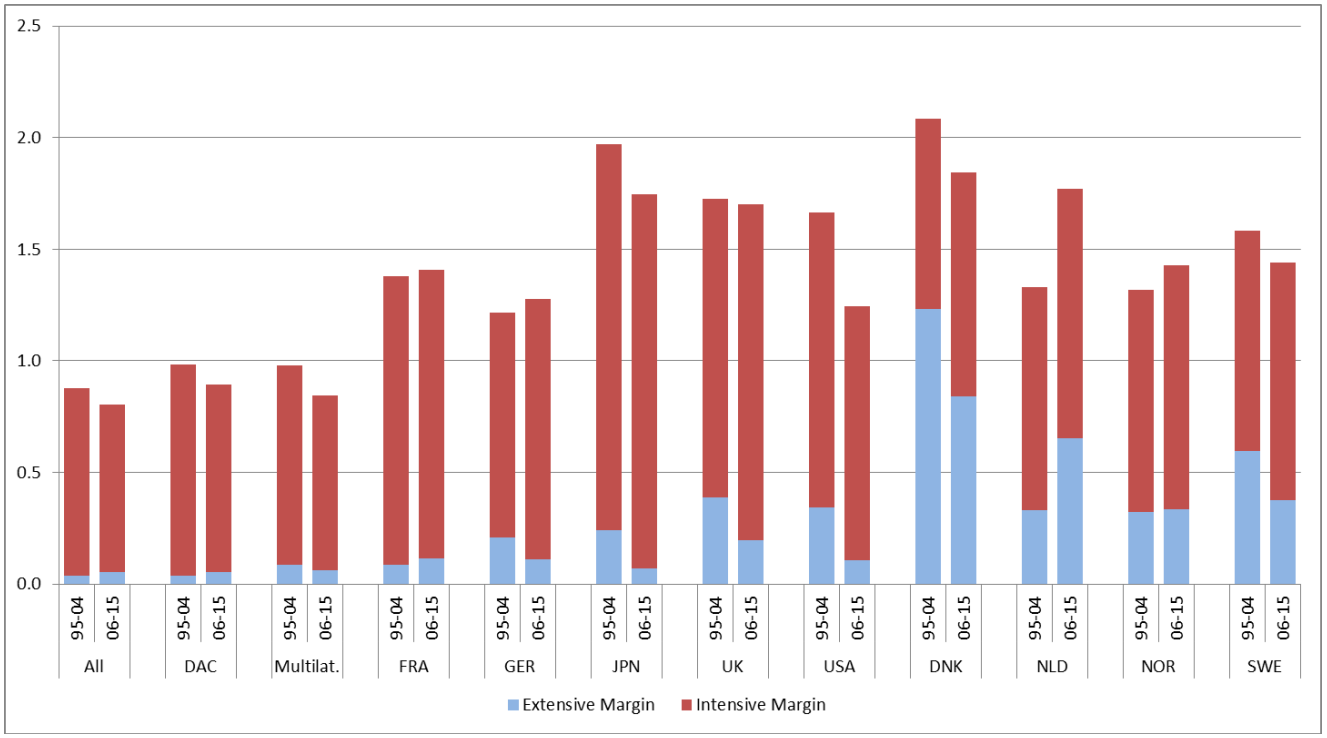
Figure 1 – Concentration of aid flows from different donors - Theil index; intensive and extensive margins



Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 1 - Aid concentration – Overall Theil index and extensive margin

	All donors	DAC donors	Multilateral donors	France	Germany	Japan	United Kingdom	USA	Denmark	Nether-lands	Norway	Sweden
Overall Theil index (141 recipient countries)												
1995-2004	0.877	0.981	0.980	1.380	1.215	1.970	1.726	1.663	2.086	1.329	1.317	1.582
2006-2015	0.805	0.894	0.846	1.407	1.276	1.748	1.703	1.245	1.845	1.771	1.428	1.441
Extensive margin												
1995-2004	0.036	0.036	0.085	0.088	0.208	0.243	0.390	0.343	1.232	0.333	0.324	0.595
2006-2015	0.055	0.055	0.062	0.117	0.110	0.0716	0.194	0.108	0.840	0.652	0.335	0.376
Number of countries receiving no aid												
1995-2004	5.0	5.0	11.5	11.8	25.5	29.8	45.1	38.0	99.6	39.1	39.0	63.2
2006-2015	7.5	7.5	8.5	15.5	14.7	9.6	24.1	14.4	79.1	66.6	40.1	44.0

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 2 - Aid concentration by income groups of recipient countries

	All donors	DAC donors	Multi-lateral donors	France	Germany	Japan	United Kingdom	USA	Denmark	Nether-lands	Norway	Sweden
Overall Theil index												
1995-2004	0.877	0.981	0.980	1.380	1.215	1.970	1.726	1.663	2.086	1.329	1.317	1.582
2006-2015	0.805	0.894	0.846	1.407	1.276	1.748	1.703	1.245	1.845	1.771	1.428	1.441
Between component												
1995-2004	0.054	0.017	0.255	0.038	0.017	0.031	0.249	0.040	0.253	0.124	0.149	0.167
2006-2015	0.097	0.072	0.185	0.010	0.015	0.120	0.316	0.068	0.290	0.267	0.149	0.184
Lower income recipients (70 countries)												
1995-2004												
Share of aid	0.655	0.577	0.836	0.612	0.539	0.532	0.830	0.421	0.830	0.735	0.759	0.772
Extensive margin	0.017	0.017	0.044	0.062	0.097	0.192	0.168	0.205	0.916	0.175	0.158	0.415
Number of countries receiving no aid	1.2	1.2	3.0	4.2	6.4	12.0	10.8	12.4	41.8	11.1	10.2	23.7
2006-2015												
Share of aid	0.711	0.679	0.789	0.519	0.546	0.717	0.861	0.665	0.851	0.840	0.754	0.786
Extensive margin	0.000	0.000	0.009	0.053	0.051	0.029	0.111	0.042	0.504	0.485	0.143	0.182
Number of countries receiving no aid	0.0	0.0	0.6	3.6	3.5	2.0	7.3	2.9	26.9	26.2	9.3	11.6
Higher income recipients (71 countries)												
1995-2004												
Share of aid	0.345	0.423	0.164	0.388	0.461	0.468	0.170	0.579	0.170	0.265	0.241	0.228
Extensive margin	0.056	0.056	0.128	0.113	0.341	0.296	0.683	0.519	1.698	0.523	0.521	0.816
Number of countries receiving no aid	3.8	3.8	8.5	7.6	19.1	17.8	34.3	25.6	57.8	28.0	28.8	39.5
2006-2015												
Share of aid	0.289	0.321	0.211	0.481	0.454	0.283	0.139	0.335	0.149	0.160	0.246	0.214
Extensive margin	0.112	0.112	0.118	0.184	0.173	0.114	0.310	0.178	1.359	0.851	0.572	0.620
Number of countries receiving no aid	7.5	7.5	7.9	11.9	11.2	7.6	16.8	11.5	52.2	40.4	30.8	32.4

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 3 - Aid concentration by quality of governance in recipient countries

	All donors	DAC donors	Multi-lateral donors	France	Germany	Japan	United Kingdom	USA	Denmark	Nether-lands	Norway	Sweden
Overall Theil index												
1995-2004	0.877	0.981	0.980	1.380	1.215	1.970	1.726	1.663	2.086	1.329	1.317	1.582
2006-2015	0.805	0.894	0.846	1.407	1.276	1.748	1.703	1.245	1.845	1.771	1.428	1.441
Between component												
1995-2004	0.024	0.023	0.025	0.033	0.024	0.044	0.016	0.052	0.033	0.018	0.033	0.042
2006-2015	0.044	0.047	0.028	0.021	0.035	0.031	0.104	0.076	0.038	0.080	0.025	0.074
Recipients with relatively poor governance (71 countries)												
1995-2004												
Share of aid	0.596	0.586	0.609	0.609	0.571	0.579	0.468	0.611	0.484	0.563	0.615	0.614
Extensive margin	0.051	0.051	0.079	0.081	0.135	0.284	0.289	0.303	1.186	0.251	0.191	0.453
Number of countries receiving no aid	3.5	3.5	5.4	5.5	8.9	17.2	17.7	17.4	49.1	15.5	12.3	25.8
2006-2015												
Share of aid	0.649	0.652	0.619	0.576	0.604	0.606	0.713	0.695	0.612	0.682	0.604	0.674
Extensive margin	0.029	0.029	0.033	0.048	0.051	0.059	0.145	0.045	0.611	0.501	0.162	0.193
Number of countries receiving no aid	2.0	2.0	2.3	3.3	3.5	4.1	9.4	3.1	31.7	27.5	10.6	12.4
Recipients with relatively good governance (70 countries)												
1995-2004												
Share of aid	0.404	0.414	0.391	0.391	0.429	0.421	0.532	0.389	0.516	0.437	0.385	0.386
Extensive margin	0.022	0.022	0.092	0.095	0.297	0.204	0.508	0.387	1.286	0.426	0.482	0.767
Number of countries receiving no aid	1.5	1.5	6.1	6.3	16.6	12.6	27.4	20.6	50.5	23.6	26.7	37.4
2006-2015												
Share of aid	0.351	0.348	0.381	0.424	0.396	0.394	0.287	0.305	0.388	0.318	0.396	0.326
Extensive margin	0.082	0.086	0.093	0.193	0.175	0.082	0.250	0.177	1.147	0.833	0.549	0.607
Number of countries receiving no aid	5.5	5.5	6.2	12.2	11.2	5.5	14.7	11.3	47.4	39.1	29.5	31.6

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 4 - Aid concentration by quality of governance in income groups of recipient countries

	All donors	DAC donors	Multi-lateral donors	FRA	GER	JPN	UK	USA	DNK	NLD	NOR	SWE
Overall Theil index												
Lower income recipients												
1995-2004	0.637	0.737	0.650	1.203	0.942	1.755	1.395	0.813	1.692	1.037	0.986	1.290
2006-2015	0.557	0.672	0.520	1.262	1.007	1.530	1.310	0.950	1.442	1.385	1.023	1.106
Higher income recipients												
1995-2004	1.173	1.272	1.089	1.522	1.474	2.107	1.897	2.142	2.444	1.676	1.740	1.833
2006-2015	1.069	1.115	1.162	1.521	1.536	1.820	1.842	1.577	2.213	2.098	2.040	1.778
Between component												
Lower income recipients												
1995-2004	0.032	0.048	0.021	0.021	0.059	0.133	0.076	0.037	0.195	0.054	0.014	0.054
2006-2015	0.001	0.002	0.005	0.014	0.016	0.083	0.028	0.029	0.073	0.030	0.006	0.018
Higher income recipients												
1995-2004	0.139	0.143	0.135	0.138	0.163	0.132	0.052	0.227	0.100	0.078	0.167	0.083
2006-2015	0.158	0.152	0.141	0.129	0.167	0.169	0.125	0.144	0.267	0.177	0.097	0.336
Lower income recipients												
Relatively poor governance (35 countries)												
1995-2004												
Share of aid	0.393	0.369	0.416	0.509	0.357	0.268	0.326	0.500	0.218	0.365	0.453	0.362
Extensive margin	0.000	0.000	0.023	0.044	0.053	0.298	0.129	0.190	1.342	0.160	0.106	0.347
No. of countries receiving no aid	0.0	0.0	0.8	1.5	1.8	8.8	4.2	5.6	25.6	5.0	3.5	10.2
2006-2015												
Share of aid	0.499	0.496	0.472	0.538	0.470	0.339	0.575	0.614	0.343	0.505	0.482	0.486
Extensive margin	0.000	0.000	0.009	0.029	0.035	0.059	0.090	0.032	0.522	0.486	0.125	0.106
No. of countries receiving no aid	0.0	0.0	0.3	1.0	1.2	2.0	3.0	1.1	13.7	13.0	4.1	3.5
Relatively good governance (35 countries)												
1995-2004												
Share of aid	0.607	0.631	0.584	0.491	0.643	0.732	0.674	0.500	0.782	0.635	0.547	0.638
Extensive margin	0.035	0.035	0.065	0.081	0.143	0.098	0.211	0.222	0.630	0.193	0.213	0.490
No. of countries receiving no aid	1.2	1.2	2.2	2.7	4.6	3.2	6.6	6.8	16.2	6.1	6.7	13.5
2006-2015												
Share of aid	0.501	0.504	0.528	0.462	0.530	0.661	0.425	0.386	0.657	0.495	0.518	0.514
Extensive margin	0.000	0.000	0.009	0.077	0.068	0.000	0.132	0.053	0.488	0.487	0.162	0.266
No. of countries receiving no aid	0.0	0.0	0.3	2.6	2.3	0.0	4.3	1.8	13.2	13.2	5.2	8.1
Higher income recipients												
Relatively poor governance (36 countries)												
1995-2004												
Share of aid	0.758	0.759	0.754	0.760	0.777	0.736	0.586	0.787	0.691	0.679	0.765	0.648
Extensive margin	0.073	0.073	0.112	0.076	0.225	0.276	0.683	0.410	1.523	0.393	0.285	0.531
No. of countries receiving no aid	2.5	2.5	3.8	2.6	7.0	8.5	17.5	11.3	27.9	11.4	8.9	14.8
2006-2015												
Share of aid	0.775	0.767	0.765	0.740	0.775	0.778	0.734	0.753	0.828	0.758	0.660	0.886
Extensive margin	0.081	0.081	0.081	0.093	0.093	0.084	0.267	0.081	0.974	0.537	0.286	0.363
No. of countries receiving no aid	2.8	2.8	2.8	3.2	3.2	2.9	7.4	2.8	21.8	14.8	8.9	10.8
Relatively good governance (35 countries)												
1995-2004												
Share of aid	0.242	0.241	0.246	0.240	0.223	0.264	0.414	0.213	0.309	0.321	0.235	0.352
Extensive margin	0.038	0.038	0.148	0.155	0.501	0.320	0.686	0.688	1.974	0.690	0.845	1.238
No. of countries receiving no aid	1.3	1.3	4.7	5.0	12.1	9.3	16.8	14.3	29.9	16.6	19.9	24.7
2006-2015												
Share of aid	0.225	0.233	0.235	0.260	0.225	0.222	0.266	0.247	0.172	0.242	0.340	0.114
Extensive margin	0.146	0.146	0.159	0.290	0.263	0.146	0.358	0.290	2.061	1.339	0.991	0.990
No. of countries receiving no aid	4.7	4.7	5.1	8.7	8.0	4.7	9.4	8.7	30.4	25.6	21.9	21.6

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 5 - Aid concentration by importance of recipient countries as export market

	All donors	DAC donors	Multi-lateral donors	France	Germany	Japan	United Kingdom	USA	Denmark	Nether-lands	Norway	Sweden
Overall Theil index												
1995-2004	0.877	0.981	0.980	1.380	1.215	1.970	1.726	1.663	2.086	1.329	1.317	1.582
2006-2015	0.805	0.894	0.846	1.407	1.276	1.748	1.703	1.245	1.845	1.771	1.428	1.441
Between component												
1995-2004	0.085	0.121	0.024	0.321	0.134	0.442	0.166	0.191	0.047	0.053	0.005	0.058
2006-2015	0.082	0.107	0.034	0.357	0.250	0.391	0.129	0.069	0.082	0.027	0.004	0.030
Recipients with less important export markets (71 countries)												
1995-2004												
Share of aid	0.303	0.264	0.405	0.128	0.255	0.072	0.226	0.208	0.375	0.351	0.477	0.353
Extensive margin	0.010	0.010	0.064	0.103	0.287	0.288	0.392	0.408	1.340	0.440	0.403	0.909
Number of countries receiving no aid	0.7	0.7	4.4	6.9	16.8	17.3	22.7	21.8	52.2	24.7	23.5	42.3
2006-2015												
Share of aid	0.304	0.279	0.377	0.110	0.166	0.093	0.264	0.325	0.312	0.419	0.484	0.392
Extensive margin	0.024	0.024	0.039	0.140	0.144	0.055	0.208	0.120	1.150	1.043	0.442	0.616
Number of countries receiving no aid	1.7	1.7	2.7	9.2	9.5	3.8	12.8	8.0	47.3	44.8	25.3	32.5
Recipients with more important export markets (70 countries)												
1995-2004												
Share of aid	0.697	0.736	0.595	0.872	0.745	0.928	0.774	0.792	0.625	0.649	0.523	0.647
Extensive margin	0.064	0.064	0.107	0.073	0.136	0.200	0.389	0.283	1.137	0.235	0.251	0.357
Number of countries receiving no aid	4.3	4.3	7.1	4.9	8.7	12.5	22.4	16.2	47.4	14.4	15.5	20.9
2006-2015												
Share of aid	0.696	0.721	0.623	0.890	0.834	0.907	0.736	0.675	0.688	0.581	0.516	0.608
Extensive margin	0.087	0.087	0.087	0.094	0.077	0.087	0.184	0.096	0.618	0.378	0.239	0.181
Number of countries receiving no aid	5.8	5.8	5.8	6.3	5.2	5.8	11.3	6.4	31.8	21.8	14.8	11.5

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Table 6 - Aid concentration by importance of export markets in income groups of recipient countries

	All donors	DAC donors	Multi-lateral donors	FRA	GER	JPN	UK	USA	DNK	NLD	NOR	SWE
Overall Theil index												
Lower income recipients												
1995-2004	0.637	0.737	0.650	1.203	0.942	1.755	1.395	0.813	1.692	1.037	0.986	1.290
2006-2015	0.557	0.672	0.520	1.262	1.007	1.530	1.310	0.950	1.442	1.385	1.023	1.106
Higher income recipients												
1995-2004	1.173	1.272	1.089	1.522	1.474	2.107	1.897	2.142	2.444	1.676	1.740	1.833
2006-2015	1.069	1.115	1.162	1.521	1.536	1.820	1.842	1.577	2.213	2.098	2.040	1.778
Between component												
Lower income recipients												
1995-2004	0.112	0.128	0.082	0.388	0.096	0.461	0.291	0.074	0.141	0.127	0.086	0.147
2006-2015	0.151	0.167	0.114	0.383	0.259	0.443	0.230	0.082	0.179	0.153	0.093	0.082
Higher income recipients												
1995-2004	0.251	0.296	0.063	0.394	0.288	0.387	0.125	0.391	0.123	0.052	0.019	0.071
2006-2015	0.202	0.234	0.100	0.410	0.402	0.313	0.289	0.210	0.100	0.073	0.035	0.145
Lower income recipients												
Less important export markets (35 countries)												
1995-2004												
Share of aid	0.271	0.257	0.304	0.094	0.294	0.063	0.140	0.314	0.271	0.261	0.304	0.267
Extensive margin	0.000	0.000	0.047	0.094	0.161	0.256	0.276	0.297	1.113	0.272	0.261	0.603
No. of countries receiving no aid	0.0	0.0	1.6	3.1	5.1	7.7	8.4	8.5	23.3	8.2	8.0	15.8
2006-2015												
Share of aid	0.233	0.220	0.268	0.099	0.158	0.069	0.183	0.303	0.221	0.236	0.300	0.309
Extensive margin	0.000	0.000	0.018	0.109	0.106	0.029	0.170	0.087	0.843	0.783	0.249	0.352
No. of countries receiving no aid	0.0	0.0	0.6	3.6	3.5	1.0	5.4	2.9	19.0	18.0	7.7	10.3
More important export markets (35 countries)												
1995-2004												
Share of aid	0.729	0.743	0.696	0.906	0.706	0.937	0.860	0.686	0.729	0.739	0.696	0.733
Extensive margin	0.035	0.035	0.041	0.032	0.038	0.134	0.072	0.124	0.758	0.088	0.065	0.257
No. of countries receiving no aid	1.2	1.2	1.4	1.1	1.3	4.3	2.4	3.9	18.5	2.9	2.2	7.9
2006-2015												
Share of aid	0.767	0.780	0.732	0.901	0.842	0.931	0.817	0.697	0.779	0.764	0.700	0.691
Extensive margin	0.000	0.000	0.000	0.000	0.000	0.029	0.056	0.000	0.265	0.271	0.047	0.038
No. of countries receiving no aid	0.0	0.0	0.0	0.0	0.0	1.0	1.9	0.0	7.9	8.2	1.6	1.3
Higher income recipients												
Less important export markets (36 countries)												
1995-2004												
Share of aid	0.169	0.142	0.336	0.096	0.154	0.100	0.284	0.100	0.303	0.373	0.504	0.344
Extensive margin	0.029	0.029	0.116	0.144	0.561	0.357	0.753	0.921	1.754	0.774	0.754	1.244
No. of countries receiving no aid	1.0	1.0	3.9	4.8	13.4	10.4	18.3	17.4	29.6	18.5	19.0	25.5
2006-2015												
Share of aid	0.202	0.182	0.294	0.089	0.092	0.143	0.151	0.210	0.322	0.366	0.429	0.265
Extensive margin	0.109	0.109	0.121	0.172	0.216	0.081	0.381	0.207	2.275	1.611	0.827	1.133
No. of countries receiving no aid	3.7	3.7	4.1	5.6	6.9	2.8	9.9	6.7	31.9	28.4	20.2	24.1
More important export markets (35 countries)												
1995-2004												
Share of aid	0.831	0.858	0.664	0.904	0.846	0.900	0.716	0.900	0.697	0.627	0.496	0.656
Extensive margin	0.084	0.084	0.142	0.086	0.183	0.242	0.632	0.288	1.680	0.326	0.330	0.514
Number of countries receiving no aid	2.8	2.8	4.6	2.8	5.7	7.4	16.0	8.2	28.2	9.5	9.8	14.0
2006-2015												
Share of aid	0.798	0.818	0.706	0.911	0.908	0.857	0.849	0.790	0.678	0.634	0.571	0.735
Extensive margin	0.116	0.116	0.116	0.199	0.131	0.148	0.250	0.148	0.902	0.427	0.363	0.278
No. of countries receiving no aid	3.8	3.8	3.8	6.3	4.3	4.8	6.9	4.8	20.3	12.0	10.6	8.3

Note: period averages.

Source: OECD-DAC, Creditor Reporting System

Appendix

Table A1 - Classification of 141 recipient countries according to income, quality of governance and importance as export markets

	Income		Quality of Governance		Importance as Export Market*	
	Lower	Higher	Poor	Good	Low	High
1.	Afghanistan	Algeria	Afghanistan	Antigua and Barbuda	Antigua and Barbuda	Afghanistan
2.	Angola	Antigua and Barbuda	Algeria	Argentina	Armenia	Algeria
3.	Armenia	Argentina	Angola	Armenia	Barbados	Angola
4.	Azerbaijan	Bahrain	Azerbaijan	Bahrain	Belize	Argentina
5.	Bangladesh	Barbados	Bangladesh	Barbados	Bhutan	Azerbaijan
6.	Benin	Belarus	Belarus	Belize	Bolivia	Bahrain
7.	Bhutan	Belize	Bolivia	Benin	Botswana	Bangladesh
8.	Burkina Faso	Bolivia	Burundi	Bhutan	Burkina Faso	Belarus
9.	Burundi	Botswana	Cambodia	Botswana	Burundi	Benin
10.	Cambodia	Brazil	Cameroon	Brazil	Cabo Verde	Brazil
11.	Cameroon	Cabo Verde	Central African Republic	Burkina Faso	Cambodia	Cameroon
12.	Central African Republic	Chile	Chad	Cabo Verde	Central African Republic	Chile
13.	Chad	China (PRC)	China (PRC)	Chile	Chad	China (PRC)
14.	Comoros	Colombia	Comoros	Colombia	Comoros	Colombia
15.	Congo	Costa Rica	Congo	Costa Rica	DPR Korea (North Korea)	Congo
16.	Côte d'Ivoire	Cuba	Côte d'Ivoire	Dominica	Democratic Republic of the Congo	Costa Rica
17.	DPR Korea (North Korea)	Djibouti	Cuba	Dominican Republic	Djibouti	Côte d'Ivoire
18.	Democratic Republic of the Congo	Dominica	DPR Korea (North Korea)	El Salvador	Dominica	Cuba
19.	Eritrea	Dominican Republic	Democratic Republic of the Congo	Fiji	Equatorial Guinea	Dominican Republic
20.	Ethiopia	Ecuador	Djibouti	FYR Macedonia	Eritrea	Ecuador
21.	Gambia	Egypt	Ecuador	Georgia	Fiji	Egypt
22.	Georgia	El Salvador	Egypt	Ghana	French Polynesia	El Salvador
23.	Ghana	Equatorial Guinea	Equatorial Guinea	Grenada	Gambia	Ethiopia
24.	Guinea	Fiji	Eritrea	Guyana	Georgia	FYR Macedonia
25.	Guinea-Bissau	FYR Macedonia	Ethiopia	India	Grenada	Gabon
26.	Guyana	French Polynesia	French Polynesia	Israel	Guinea	Ghana
27.	Haiti	Gabon	Gabon	Jamaica	Guinea-Bissau	Guatemala
28.	Honduras	Grenada	Gambia	Jordan	Guyana	Haiti
29.	India	Guatemala	Guatemala	Kiribati	Kiribati	Honduras
30.	Indonesia	Iran	Guinea	Korea	Kyrgyzstan	India
31.	Kenya	Iraq	Guinea-Bissau	Lesotho	Laos.	Indonesia
31.	Kyrgyzstan	Israel	Haiti	Madagascar	Lesotho	Iran
33.	Laos	Jamaica	Honduras	Malawi	Madagascar	Iraq
34.	Lesotho	Jordan	Indonesia	Malaysia	Malawi	Israel
35.	Liberia	Kazakhstan	Iran	Maldives	Maldives	Jamaica
36.	Madagascar	Kiribati	Iraq	Mali	Mali	Jordan
37.	Malawi	Korea	Kazakhstan	Mauritius	Mauritania	Kazakhstan
38.	Mali	Lebanon	Kenya	Mexico	Mauritius	Kenya
39.	Mauritania	Libya	Kyrgyzstan	Moldova	Moldova	Korea
40.	Moldova	Malaysia	Laos	Mongolia	Mongolia	Lebanon
41.	Mongolia	Maldives	Lebanon	Morocco	Mozambique	Liberia
42.	Mozambique	Mauritius	Liberia	Mozambique	Myanmar	Libya
43.	Myanmar	Mexico	Libya	Namibia	Namibia	Malaysia
44.	Nauru	Morocco	Mauritania	Nauru	Nauru	Mexico
45.	Nepal	Namibia	Myanmar	Oman	Nepal	Morocco
46.	Nicaragua	New Caledonia	Nepal	Palau	Nicaragua	New Caledonia
47.	Niger	Oman	New Caledonia	Panama	Niger	Nigeria
48.	Nigeria	Palau	Nicaragua	Peru	Palau	Oman
49.	Pakistan	Panama	Niger	Philippines	Papua New Guinea	Pakistan

Table A1 - continued

	Income		Quality of Governance		Importance as Export Market*	
	Lower	**Higher**	**Poor**	**Good**	**Low**	**High**
50.	Papua New Guinea	Paraguay	Nigeria	Saint Kitts and Nevis	Rwanda	Panama
51.	Rwanda	Peru	Pakistan	Saint Lucia	Saint Helena	Paraguay
52.	Saint Helena	Philippines	Papua New Guinea	Saint Vincent and the Grenadines	Saint Kitts and Nevis	Peru
53.	Sao Tome and Principe	Saint Kitts and Nevis	Paraguay	Sao Tome and Principe	Saint Lucia	Philippines
54.	Senegal	Saint Lucia	Rwanda	Saudi Arabia	Saint Vincent and the Grenadines	Saudi Arabia
55.	Sierra Leone	Saint Vincent and the Grenadines	Saint Helena	Senegal	Sao Tome and Principe	Senegal
56.	Solomon Islands	Saudi Arabia	Sierra Leone	Seychelles	Seychelles	South Africa
57.	Somalia	Seychelles	Solomon Islands	South Africa	Sierra Leone	Sri Lanka
58.	Sri Lanka	South Africa	Somalia	Sri Lanka	Solomon Islands	Sudan
59.	Sudan	Suriname	Sudan	Suriname	Somalia	Syrian Arab Republic
60.	Tajikistan	Swaziland	Syrian Arab Republic	Swaziland	Suriname	Thailand
61.	Tanzania	Syrian Arab Republic	Tajikistan	Tanzania	Swaziland	Togo
62.	Togo	Thailand	Togo	Thailand	Tajikistan	Trinidad and Tobago
63.	Tuvalu	Tonga	Turkmenistan	Tonga	Tanzania	Tunisia
64.	Uganda	Trinidad and Tobago	Uganda	Trinidad and Tobago	Tonga	Turkey
65.	Ukraine	Tunisia	Ukraine	Tunisia	Turkmenistan	Ukraine
66.	Uzbekistan	Turkey	Uzbekistan	Turkey	Tuvalu	Uruguay
67.	Viet Nam	Turkmenistan	Venezuela	Tuvalu	Uganda	Uzbekistan
68.	Yemen	Uruguay	Viet Nam	Uruguay	Vanuatu	Venezuela
69.	Zambia	Vanuatu	West Bank and Gaza Strip	Vanuatu	West Bank and Gaza Strip	Viet Nam
70.	Zimbabwe	Venezuela	Yemen	Zambia	Zambia	Yemen
71.		West Bank and Gaza Strip	Zimbabwe		Zimbabwe	

*The displayed classification for the importance as export markets applies only to the donor groups. Each bilateral donor has its own specific classification here.

Source: World Bank classifications; IMF, Direction of Trade Statistics

Table A2 - Classification of 141 recipient countries according to quality of governance and importance as export markets for two different income groups

	Quality of Governance by Income				Importance as Export Markets by Income *			
	Lower Income		Higher Income		Lower Income		Higher Income	
	Poor	Good	Poor	Good	Low	High	Low	High
1.	Afghanistan	Armenia	Algeria	Antigua and Barbuda	Armenia	Afghanistan	Antigua and Barbuda	Algeria
2.	Angola	Benin	Argentina	Bahrain	Bhutan	Angola	Bahrain	Argentina
3.	Azerbaijan	Bhutan	Belarus	Barbados	Burkina Faso	Azerbaijan	Barbados	Belarus
4.	Bangladesh	Burkina Faso	Bolivia	Belize	Burundi	Bangladesh	Belize	Brazil
5.	Burundi	Gambia	China (PRC)	Botswana	Cambodia	Benin	Bolivia	Chile
6.	Cambodia	Georgia	Colombia	Brazil	Central African Republic	Cameroon	Botswana	China (PRC)
7.	Cameroon	Ghana	Cuba	Cabo Verde	Chad	Congo	Cabo Verde	Colombia
8.	Central African Republic	Guyana	Djibouti	Chile	Comoros	Côte d'Ivoire	Cuba	Costa Rica
9.	Chad	Honduras	Dominican Republic	Costa Rica	DPR Korea (North Korea)	Democratic Republic of the Congo	Djibouti	Dominican Republic
10.	Comoros	India	Ecuador	Dominica	Eritrea	Ethiopia	Dominica	Ecuador
11.	Congo	Indonesia	Egypt	Grenada	Gambia	Georgia	Equatorial Guinea	Egypt
12.	Côte d'Ivoire	Kenya	El Salvador	Israel	Guinea-Bissau	Ghana	Fiji	El Salvador
13.	DPR Korea (North Korea)	Lesotho	Equatorial Guinea	Jamaica	Guyana	Guinea	FYR Macedonia	Guatemala
14.	Democratic Republic of the Congo	Madagascar	Fiji	Jordan	Kyrgyzstan	Haiti	French Polynesia	Iran
15.	Eritrea	Malawi	FYR Macedonia	Kiribati	Laos	Honduras	Gabon	Iraq
16.	Ethiopia	Mali	French Polynesia	Korea	Lesotho	India	Grenada	Israel
17.	Guinea	Mauritania	Gabon	Malaysia	Madagascar	Indonesia	Jamaica	Jordan
18.	Guinea-Bissau	Moldova	Guatemala	Maldives	Malawi	Kenya	Kiribati	Kazakhstan
19.	Haiti	Mongolia	Iran	Mauritius	Mongolia	Liberia	Maldives	Korea
20.	Kyrgyzstan	Mozambique	Iraq	Namibia	Mozambique	Mali	Mauritius	Lebanon
21.	Laos	Nauru	Kazakhstan	Oman	Nauru	Mauritania	Namibia	Libya
22.	Liberia	Nicaragua	Lebanon	Palau	Nepal	Moldova	New Caledonia	Malaysia
23.	Myanmar	Niger	Libya	Panama	Niger	Myanmar	Palau	Mexico
24.	Nepal	Papua New Guinea	Mexico	Saint Kitts and Nevis	Papua New Guinea	Nicaragua	Paraguay	Morocco
25.	Nigeria	Rwanda	Morocco	Saint Lucia	Rwanda	Nigeria	Saint Kitts and Nevis	Oman
26.	Pakistan	Sao Tome and Principe	New Caledonia	Saint Vincent and the Grenadines	Saint Helena	Pakistan	Saint Lucia	Panama
27.	Saint Helena	Senegal	Paraguay	Seychelles	Sao Tome and Principe	Senegal	Saint Vincent and the Grenadines	Peru
28.	Sierra Leone	Solomon Islands	Peru	South Africa	Sierra Leone	Sri Lanka	Seychelles	Philippines
29.	Somalia	Sri Lanka	Philippines	Suriname	Solomon Islands	Sudan	Suriname	Saudi Arabia
30.	Sudan	Tanzania	Saudi Arabia	Swaziland	Somalia	Tanzania	Swaziland	South Africa
31.	Tajikistan	Tuvalu	Syrian Arab Republic	Thailand	Tajikistan	Togo	Syrian Arab Republic	Thailand
31.	Togo	Uganda	Tonga	Trinidad and Tobago	Tuvalu	Ukraine	Tonga	Trinidad and Tobago
33.	Uzbekistan	Ukraine	Turkey	Tunisia	Uganda	Uzbekistan	Turkmenistan	Tunisia
34.	Yemen	Viet Nam	Turkmenistan	Uruguay	Zambia	Viet Nam	Uruguay	Turkey
35.	Zimbabwe	Zambia	Venezuela	Vanuatu	Zimbabwe	Yemen	Vanuatu	Venezuela
36.			West Bank & Gaza Strip				West Bank & Gaza Strip	

* The displayed classifications for the importance as export markets apply only to the donor groups. Each bilateral donor has its own specific classifications here.

Source: World Bank classifications; IMF, Direction of Trade Statistics